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Conference Abstract

Symbiota2: Enabling greater collaboration and flexibility in mobilizing biodiversity data

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Abstract

Symbiota, the most used biodiversity content management system in the United States, has helped mobilize over 35 million specimen records from over 750 natural history collections via 40+ separate installations. Most Symbiota records come from natural history collections but some Symbiota instances also incorporate records from observations, images, publications, and gardens. Symbiota serves as both a data management system for entering, annotating, and cleaning occurrence data, images and associated specimen data (e.g., genetic sequences, images, publications) and as a primary aggregator/publisher for data stored in any database system that can export to a comma separated value (csv) file. Symbiota integrates and displays data and images from many resources in multiple formats, some of which appeal primarily to researchers, others to land managers, educators, and the general public.

After nearly 20 years, Symbiota is going through a major software revision through Symbiota2, a US National Science Foundation-funded project. The broad goals of Symbiota2 are to make it easier for developers to add new functionality, to improve usability, and to help site managers administer a site. Symbiota2 will have a plugin-based architecture that will allow developers to encapsulate functionality in a plugin. Symbiota2 will improve usability by supporting off-line use, enabling Wordpress (content-managment system) integration, and having a customizable user interface. Symbiota2 will help site

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managers by simplifying installation and management of a site. The three-year project is on-going, but so far we have created a Symbiota2 GithHub repository and a Docker image with all the necessary components for installing, configuring, and running Symbiota2, an object relational mapping (ORM) of the tables in the database management system (DBMS), and web services to connect to the DBMS via the ORM. We used Doctrine 2 for the ORM and API-Platform for the web services. By the third quarter of 2019, we anticipate deploying the plugin framework to encourage developers to create new functionality for biodiversity content management.

Keywords

content management system, data mobilization, development, plug-in architecture, object relational mapping

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